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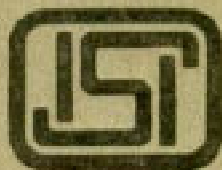
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IS : 8694 - 1978

*Indian Standard*  
SPECIFICATION FOR  
LATEX BLADDERS, SEAMLESS, VALVE TYPE

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# Indian Standard

## SPECIFICATION FOR LATEX BLADDERS, SEAMLESS, VALVE TYPE

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# *Indian Standard*

## SPECIFICATION FOR LATEX BLADDERS, SEAMLESS, VALVE TYPE

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 23 January 1978, after the draft finalized by the Sports Goods Sectional Committee had been approved by the Consumer Products and Medical Instruments Division Council.

**0.2** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard covers the requirements of valve inflated, seamless, latex bladder.

### 2. MATERIAL AND WORKMANSHIP

**2.1** The bladders shall be made from rubber latex, and shall be free from harmful defects like pits and air bubbles.

**2.2** The valve shall be properly joined to the bladder.

### 3. MASS

**3.1** The mass of different sizes of bladders shall be as follows:

<i>Size No.</i>	<i>Mass</i>
	g
4	50-60
5	70-85
6	100-115

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\*Rules for rounding off numerical values (*revised*).

## 4. TESTS

**4.1 Leakage Test** — The three sizes of bladders shall be inflated to 600, 650 and 700 mm circumference respectively and tested by dipping in water. There shall be no leakage at all.

**4.2 Prolonged Inflation Test** — The bladders as inflated in 4.1 shall be kept for 24 hours and the reduction in circumference after 24 hours shall be not more than 2 percent.

**4.3 Tensile Strength and Elongation at Break Before Ageing** — Tensile strength before ageing the bladder shall be  $15 \text{ MN/m}^2$  ( 150 kgf/cm<sup>2</sup> ), minimum and elongation at break 700 percent minimum.

**4.4 Tensile Strength After Ageing** — After ageing in an oven for 24 hours at  $70 \pm 1^\circ\text{C}$  the tensile strength shall be  $11 \text{ MN/m}^2$  ( 110 kgf/cm<sup>2</sup> ) *Min.*

## 5. MARKING

**5.1** Unless otherwise specified by the purchaser, the latex bladders shall be marked with their size number, manufacturer's name, initials or trade-mark and the date of manufacture.

**5.1.1** The bladder may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 6. PACKING

**6.1** The bladders shall be packed in a weatherproof manner in accordance with the best trade practice.

## 7. SAMPLING

**7.1 Lot** — All the bladders of the same size delivered to a buyer against a despatch note shall constitute a lot.

**7.2** Unless otherwise agreed to between the buyer and the seller, the number of samples to be selected from a lot shall be according to col 1 and 2 of Table 1. The bladders shall be selected at random and to ensure the randomness of selection, procedure given in IS:4905-1968\* shall be followed.

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\*Methods for random sampling.

TABLE 1 SAMPLE SIZE

( Clauses 7.2, 7.3.1 and 7.3.2 )

NO. OF BLADDERS IN THE LOT	SAMPLE SIZE FOR VISUAL EXAMINATION (2.1 AND 2.2), MASS (3.1) AND LEAKAGE TEST (4.1)	SUBSAMPLE SIZE FOR PROLONGED INFLA- TION (4.2) AND TENSILE TESTS (4.3 AND 4.4)
(1)	(2)	(3)
Up to 25	3	2
26 „ 100	5	2
101 „ 150	8	3
151 „ 300	13	3
301 and above	20	5

**7.3 Number of Tests and Criteria for Conformity** — The number of tests and criteria for conformity for various characteristics shall be as given in 7.3.1 and 7.3.2.

**7.3.1** The number of bladders to be inspected for visual characteristics, mass and leakage tests shall be according to col 2 of Table 1. The lot shall be considered as conforming to the requirements of these characteristics, if none of the bladders inspected is found defective.

**7.3.2** The number of bladders to be subjected to prolonged inflation test, tensile strength and elongation at break and tensile strength after ageing shall be according to col 3 of Table 1. The lot shall be considered as conforming to the requirements of this standard if all the bladders subjected to the above tests are found conforming to the relevant requirements.

## 8. INSTRUCTIONS FOR STORAGE

**8.1** The bladders should be stored in containers or boxes in a place protected from heat, light, electric equipment, oil, grease, petroleum products, paraffin, kerosene and other organic compounds which are harmful for rubber.

# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

## Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Conversion</i>
Force	newton	N	1 N = 0.101 972 kgf
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>